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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,293	03/23/2007	Yannick Gerard	295641US6PCT	9222

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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EDWARDS, BRETT J

ART UNIT	PAPER NUMBER
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3781

NOTIFICATION DATE	DELIVERY MODE
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08/04/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/591,293	<b>Applicant(s)</b> GERARD ET AL.	
	<b>Examiner</b> Brett Edwards	<b>Art Unit</b> 3781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12, 16-18 and 20-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12, 16-18 and 20-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/17/2010</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/17/2010 has been entered. Claims 12, 16-18 and 20-30 are currently pending in the application.

### ***Claim Objections***

2. Claim 18 is objected to because of the following informalities: the claim recites "a perimeter of which has a conical surface profile, the component including a tubular shape, the perimeter of the opening being made by deforming a wall of the tank; manufacturing a component including a part with a conical surface profile;" and should perhaps instead be -- a perimeter of which has a conical surface profile, the perimeter of the opening being made by deforming a wall of the tank; manufacturing a component including a part with a conical surface profile, the component including a tubular shape;-  
-Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 11, 16-18, 21, 22, 24-26 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muirhead (US 6661339, of record) in view of Brandner et al. (US 20050115973, hereinafter Brandner).

As to Claim 11, Muirhead discloses a system for fastening, by welding, a component to a motor vehicle fuel tank, the system comprising: a component (104) including a portion with a conical surface profile, the component including a tubular shape; a tank with an opening (120), a perimeter of which opening includes a conical surface profile; and a welded area (112) between at least one portion of the conical surface of the perimeter of the opening in the tank and at least one portion of the conical surface of the component, wherein the perimeter of the opening of the tank is a deformed portion of a wall of the tank, wherein the component and the tank are molded in one or more molds (102) including impressions corresponding to the conical surfaces, wherein the tank includes a multilayer structure and, along the entire surface where the component is fastened to the tank, a number of superposed layers is equal to a sum of a number of layers in the component and a number of layers in the tank, and wherein the multilayer structure includes at least two layers (210) of high-density polyethylene (HDPE) between which a layer (202) comprising an ethylene/vinyl

alcohol copolymer (EVOH) is inserted (Fig. 10-13; Col. 7, ll. 12-56; Col. 10, line 41 - Col. 11, line 14).

The presence of process limitations on product claims, wherein the product does not otherwise patentably distinguish over the prior art, cannot impart patentability to the product. In re Stephens 145 USPQ 656 (CCPA 1965). Therefore, the limitation of the tank and component being molded in one or more molds including impressions corresponding to the conical surfaces has not been given patentable weight.

Muirhead does not expressly disclose the component includes a multilayer structure, wherein the multilayer structure includes at least two layers of high-density polyethylene (HDPE) between which a layer comprising an ethylene/vinyl alcohol copolymer (EVOH) is inserted.

However, Brandner discloses a fuel tank and a component, wherein the component (34) includes a multilayer structure, wherein the multilayer structure includes at least two layers (48, 50) of high-density polyethylene (HDPE) between which a layer (52) comprising an ethylene/vinyl alcohol copolymer (EVOH) is inserted (Fig 2 and 4; Par. 0017, 0018). Having the component be formed from a layer of EVOH sandwiched between two layers of HDPE helps to prevent permeation (Par. 0020).

Therefore, at the time of invention it would have been obvious to one of ordinary skill in the art to modify the system taught by Muirhead so as to form the component from a multilayer structure, wherein the multilayer structure includes

Art Unit: 3781

at least two layers of high-density polyethylene (HDPE) between which a layer comprising an ethylene/vinyl alcohol copolymer (EVOH) is inserted, as taught by Brandner, in order to help prevent fuel permeation.

As to Claim 16, Muirhead and Brandner disclose the fastening system according to Claim 11. Muirhead discloses the component includes at least one of a plate, a delivery tube, a fitting, a spout, a valve, or any other accessory of the fuel tank (Fig. 13; Col. 11, ll. 41-47).

In regard to Claim 17, the presence of process limitations on product claims, wherein the product does not otherwise patentably distinguish over the prior art, cannot impart patentability to the product. In re Stephens 145 USPQ 656 (CCPA 1965). As such, Muirhead and Brandner disclose a fuel system comprising a fuel tank and at least one accessory (104) (Fig. 10, 11 and 13; Col. 10, line 41 - Col. 11, line 1).

As to Claim 21, Muirhead and Brandner disclose the fastening system according to Claim 11. Muirhead further discloses the wall of the tank includes a bent portion defining the perimeter of the opening of the tank (Fig. 11 and 13).

As to Claim 22, Muirhead and Brandner disclose the fastening system according to Claim 21. Muirhead further discloses the conical surface of the perimeter of the opening in the tank comprises a cavity that receives the conical surface profile of the component (Fig. 11 and 13)

As to Claim 24, Muirhead and Brandner disclose the fastening system according to Claim 21. Muirhead further discloses the thickness of a wall portion

Art Unit: 3781

of the tank forming the conical surface of the tank is a same thickness as a thickness of a wall portion of the tank surrounding the conical surface of the tank (Fig. 11 and 13).

As to Claim 18, Muirhead discloses a method of manufacturing a fuel system, comprising:

manufacturing a tank comprising an opening, a perimeter of which has a conical surface profile, the perimeter of the opening being made by deforming a wall of the tank; manufacturing a component (104) including a part with a conical surface profile, the component including a tubular shape; and welding at least one portion of the conical surface of the perimeter of the opening in the tank to at least one portion of the conical surface of the component, and wherein the tank and the component are manufactured by molding by using one or more molds (102) including impressions corresponding to the conical surfaces, wherein the tank each includes a multilayer structure and, along the entire surface where the component is fastened to the tank, a number of superposed layers is equal to a sum of a number of layers in the component and a number of layers in the tank, and wherein the multilayer structure includes at least two layers (210) of high-density polyethylene (HDPE) between which a layer (202) comprising an ethylene/vinyl alcohol copolymer (EVOH) is inserted (Fig. 10-13; Col. 7, ll. 12-56; Col. 10, line 41 - Col. 11, line 14).

Muirhead does not expressly disclose the component includes a multilayer structure, wherein the multilayer structure includes at least two layers of high-

density polyethylene (HDPE) between which a layer comprising an ethylene/vinyl alcohol copolymer (EVOH) is inserted.

However, Brandner discloses a fuel tank and a component, wherein the component (34) includes a multilayer structure, wherein the multilayer structure includes at least two layers (48, 50) of high-density polyethylene (HDPE) between which a layer (52) comprising an ethylene/vinyl alcohol copolymer (EVOH) is inserted (Fig 2 and 4; Par. 0017, 0018). Having the component be formed from a layer of EVOH sandwiched between two layers of HDPE helps to prevent permeation (Par. 0020).

Therefore, at the time of invention it would have been obvious to one of ordinary skill in the art to modify the system taught by Muirhead so as to form the component from a multilayer structure, wherein the multilayer structure includes at least two layers of high-density polyethylene (HDPE) between which a layer comprising an ethylene/vinyl alcohol copolymer (EVOH) is inserted, as taught by Brandner, in order to help prevent fuel permeation.

As to Claim 25, Muirhead and Brandner disclose the fastening system according to Claim 18. Muirhead further discloses the wall of the tank includes a bent portion defining the perimeter of the opening of the tank (Fig. 11 and 13).

As to Claim 26, Muirhead and Brandner disclose the fastening system according to Claim 25. Muirhead further discloses wherein the conical surface of the perimeter of the opening in the tank comprises a cavity that receives the conical surface profile of the component (Fig. 11 and 13).



As to Claim 28, Muirhead and Brandner disclose the fastening system according to Claim 25. Muirhead further discloses the thickness of a wall portion of the tank forming the conical surface of the tank is a same thickness as a thickness of a wall portion of the tank surrounding the conical surface of the tank (Fig. 11 and 13).

As to Claims 29 and 30, Muirhead and Brandner disclose the fastening system according to Claims 11 and 18, respectively. Neither expressly discloses wherein the conical surface of the component is defined by a circular arc as viewed in a direction perpendicular to the axis of the conical surface profile.

However, at the time of invention it would have been obvious to one of ordinary skill in the art to modify the component taught by Muirhead and Brandner so as to have the conical surface of the component is defined by a circular arc as viewed in a direction perpendicular to the axis of the conical surface profile, in order to increase the surface area of the conical surface profile and thereby allow for a larger welded area between the component and the tank. A change in form or shape is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results. *In re Dailey et al.*, 149 USPQ 47.

5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muirhead and Brandner as applied to claim 18 above, and further in view of Abare (US 6627016, of record).

As to Claim 20, Muirhead and Brandner disclose the method according to Claim 18. Neither expressly discloses the welding is hot-plate welding using self-centering hot plates or a robotic system controlled by a camera.

However, Abate discloses a molded fuel tank (1) with a plurality of components (4, 5, 6, 7), wherein the welding done on the tank is hot-plate welding using a robotic system with optical and laser scanning (Fig. 1; Col. 4, l1. 13-17; Col. 4, line 62 - Col. 5, line 19). Abate discloses the robotic system allows increased accuracy and repeatability of the manufacturing processes by making adaptive changes during the welding process to compensate for variations in the fuel tanks due to an inherent drawback of the molding process (Col. 3, l1.60-65).

Therefore, at the time of invention it would have been obvious to one of ordinary skill in the art to use hot-plate welding robots with optical and laser scanning, as taught by Abate, to form the fuel tank taught by Muirhead and Brandner in order to provide for increased accuracy and repeatability in the manufacturing process.

6. Claims 23 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muirhead and Brandner as applied to claims 21 and 25 above, and further in view of Goto (US 20020017527, of record).

As to Claims 23 and 27, Muirhead and Brandner disclose the fastening system according to Claims 21 and 25, respectively. Muirhead does not

Art Unit: 3781

expressly disclose the conical surface of the perimeter of the opening in the tank protrudes from a portion of the tank wall in a direction toward the component.

However, Goto discloses a component (2) integrally formed with a multilayer fuel tank (1), the fuel tank having an opening (1h), wherein a perimeter of the opening protrudes from a portion of the tank wall in a direction toward the component in order to allow for the attachment of internally treaded accessories (5) (Fig. 1,2 and 4-9; Par. 0038, 0039 and 0042).

Therefore at the time of invention it would have been obvious to one of ordinary skill in the art to modify the fastening system taught by Muirhead and Brandner so as to form the conical surface of the perimeter of the opening in the tank protrudes from a portion of the tank wall in a direction toward the component, as taught by Goto, in order to allow for the attachment of already existing, internally threaded accessories.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 11 and 18 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett Edwards whose telephone number is (571)270-1443. The examiner can normally be reached on M-F 9:30 AM - 6 PM EST.

Art Unit: 3781

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on (571)272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. E./  
Examiner, Art Unit 3781

/Anthony Stashick/  
Supervisory Patent Examiner, Art  
Unit 3781